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MAJOR RESEARCH PROJECT ON

Wealth Creation or Value Erosion? A Study of the Long-Term Performance of Indian IPOs

Submitted By

DIKSHANT SHARMA

2K24/DMBA/274

Under the Guidance of

Dr. Saurabh Agrawal

Head of Department (DSM)



DELHI SCHOOL OF MANAGEMENT

Delhi Technological University

Bawana Road Delhi 110042

CERTIFICATE

4 This is to certify that the major research project work “**Wealth Creation or Value Erosion? A Study of the Long-Term Performance of Indian IPOs**” made by **Dikshant Sharma (2K24/DMBA/274)**, **MBA (GENERAL)**, **4th semester**, is an authentic work carried out under guidance and supervision of **Dr Saurabh Agrawal, Head of department, DSM, DTU**.

4 The project report submitted has been found satisfactory for the partial fulfilment of the degree of Master of Business Administration.

Dr. Saurabh Agrawal

Head of department

1 **Delhi School of Management**
Delhi Technological University

DECLARATION

1 This is to certify that I have completed the **“MAJOR PROJECT RESEARCH”** report under the guidance of **“Dr. Saurabh Aggarwal”** in partial fulfilment of the requirement for the award of degree of Master of Business Administration at Delhi School of Management, Delhi Technological University. This is an original piece of work & I have not submitted it earlier elsewhere.

Dikshant Sharma

2k24/DMBA/274

MBA (2024-26)

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42

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With warm regards,

Dikshant Sharma

2K24/DMBA/274

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ABSTRACT

31 In the past 20 years, the primary capital market in India has grown substantially resulting in India becoming one of the largest IPO markets in the world and, therefore, the question of whether initial public offerings create long-term sustainability of wealth for investors or simply transfer wealth between investors is yet to be answered in India. This research provides an 11 extensive empirical examination of the long-term performance, following the completion of the IPO, across an 21 2010 to 2023 time period and for 187 companies that listed on the Bombay Stock Exchange (BSE) and National Stock Exchange (NSE).

70 This research uses a multi-dimensional approach to analyze the performance of IPOs after their IPO through the use of three complimentary measures of performance; Buy-and-Hold 20 Abnormal Returns (BHAR), Cumulative Abnormal Returns (CAR), and Wealth Relative (WR) 52 at 1 year, 3 years, and 5 years after listing. Market-adjusted and risk-adjusted benchmarks have been employed to measure the magnitude of long-term underperformance/outperformance compared to the Nifty 50, BSE Sensex, and sectoral indices.

83 The research also explores the cross-sectional drivers of the long-term IPO performance including: issue size, offer price, subscription rate, promoter holdings post-issue and underwriter reputation and industry classification, investor sentiment at listing, and 56 macroeconomic conditions at the time of listing.

Ultimately this research is for anyone who is confused whether chasing an IPO is worth it or not, as it offers evidence-based answers for all the investors and fund managers, bankers, and also regulators.

CHAPTER 1 – INTRODUCTION

IPOs Scenario in India

65 The initial public offering (IPO) shows a critical mechanism through which the company transitions from private ownership to public listing, which enables access to the capital market and a broader investor base. If we talk about the context of India, the IPO also played a significant role in the acceleration of corporate growth and in the market liquidity and also contributed to the overall development of the financial ecosystem. Over the past decades the Indian IPO market has also expanded largely, which is supported by increasing investor participation and regulatory issues.

25 The performance of IPOs has traditionally attracted the significant attention from investors due to the potential for attractively listed gains. So many new listed companies also experience a substantial price appreciation on the day of listing, driven by the strong demand, market sentiment, and oversubscription. This also creates a perception that IPOs are highly profitable investment opportunities. Market indicators such as Nifty 50 also further reflect the overall investment environment, which influences both the IPO activity and also investors' expectations.

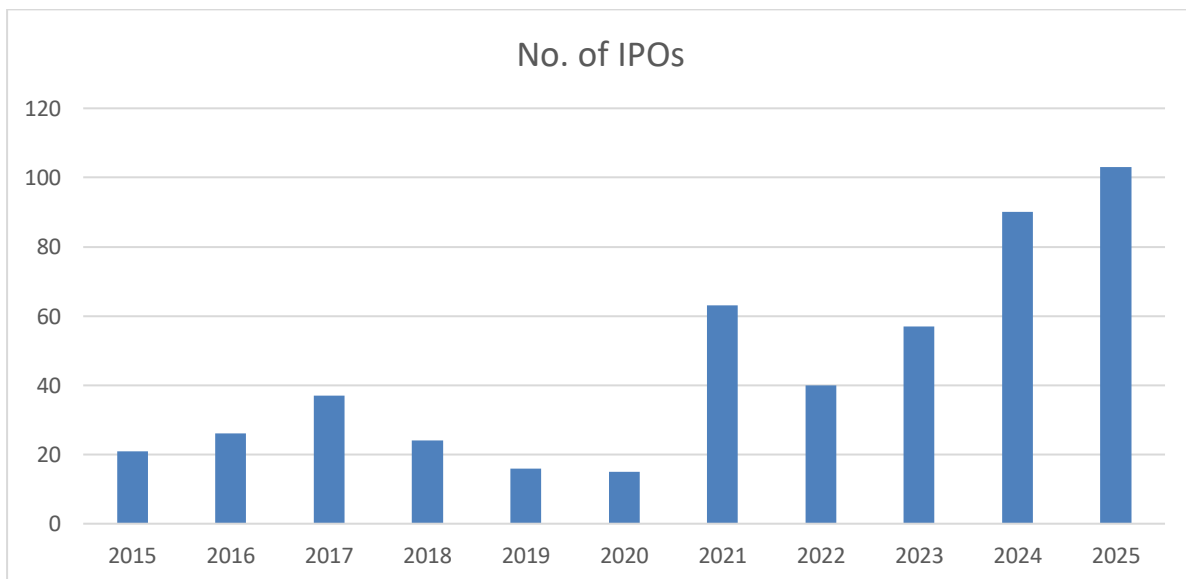
64 From the perspective of the investing public, particularly retail investors, IPOs hold the promise of participating in a company's growth story from the very beginning. Subscription data consistently shows that large IPOs attract retail applications running into hundreds of times the shares available, suggesting a strong belief that buying at the IPO price and holding generates superior returns

The Indian IPO market witnessed a drastic change in its dynamics during the last ten years, and the statistics speak volumes about the trend. In 2015, only 21 corporations were going public, which was due to a rather conservative state of the stock exchange during that period. The next couple of years brought some improvement with 26 and then an unprecedented 37 IPOs issued in 2016 and 2017 correspondingly, with better performance and a generally positive investment climate.

The pace of IPO issuance had been slowing down since. There were 24 and then only 16 IPOs in 2018 and 2019 respectively amid tighter liquidity conditions and NBFC issues. And although 2020, affected by the COVID-19 pandemic, saw another decline in IPO activity with only 15 mainboard issuances, this year turned out to be the beginning of a new chapter. Undoubtedly, 2021 turned out to be exceptional. It saw sixty-three companies hit the market in one calendar year due to liquidity abundance, historically low-interest rates, and a phenomenal increase in participation from retail investors. The proceeds of the initial offerings amounted to more than ₹1.11 lakh crore and established what seemed to be an insurmountable record.

Things get normal in 2022 with 40 IPOs while 22 more in 2023, which indicates that a new high baseline had been established rather than falling back to the level observed before the coronavirus.

In 2024, ninety mainboard IPOs were issued — the largest number ever recorded up until that moment, generating ₹1.71 lakh crore of funds and thus breaking the record previously held by 2021. In 2024, India emerged as the issuer of the greatest number of initial public offerings across all Asian exchanges, which might seem unlikely just five years ago. However, 2025 took things to the next level, issuing a hundred and three mainboard IPOs — the highest number over the last eighteen years.



Global IPO Market Context

In order to place the Indian IPO market into an overall context, it is important to compare India's primary market against other leading stock exchanges around the globe. The Indian IPO market, though traditionally considered one of emerging economies, has experienced such a dramatic change in the past few years that it has come to compete with, if not outperform the most developed capital markets.

Global Comparison: IPO Volumes and Proceeds

The US has traditionally dominated the global IPO market, with the NYSE and NASDAQ at the forefront, and have hosted most of the largest and most prestigious IPOs over the last decade. In each year between 2010 and 2020, some 25% to 30% of the world's IPO proceeds were raised on US exchanges. The second on the list were the stock exchanges in Shanghai and Shenzhen in China, HKEX and LSE.

This trend, however, drastically changed in the post-pandemic world. In 2021, IPO activity skyrocketed all around the world, with the US recording nearly \$155 billion raised via IPOs (including SPACs). The Chinese A-share market also recorded an impressive number of IPOs.

India, though small in terms of the total amount raised, distinguished itself through the high level of retail participation — retail subscription numbers in Indian IPOs in 2021 exceeded those found in any market around the world.

According to figures which could be obtained from Prime Database and Business Standard, India's 90 mainboard IPOs totaling ₹1,71,100 crore made India one of the top-five global IPO markets by the number of IPOs issued in 2024. In 2025, India issued more than 103 mainboard IPOs — something that hadn't happened since the 2007.

Exchange / Market	2021 – No. of IPOs	2022 – No. of IPOs	2023 – No. of IPOs	2024 – No. of IPOs
NYSE / NASDAQ (USA)	397	181	154	~180 (est.)
Shanghai / Shenzhen (China)	520	428	313	~100 (est.)
HKEX (Hong Kong)	98	90	70	58
BSE / NSE (India – Mainboard)	63	40	22	90
LSE (United Kingdom)	122	45	23	~28 (est.)

What sets apart India's case compared to the other markets is the caliber of the issuing mix. Contrary to China's A-share initial public offerings, which tend to be state-led listings, or the more institutional-heavy market of Hong Kong, India's spurt in IPO activity has been fueled by a blend of private sector, new age companies, financial service organizations, and manufacturing corporations. Such a varied mix contributes to enhanced analysis of the subject, as there is no bias towards any particular state-led trend affecting the outcome.

In addition to that, in contrast to the United States market, where SPACs manipulated figures in 2021, India's figures solely comprise conventional book-building primary market transactions.

Evolution of SEBI Regulations Governing IPOs

12 The Indian IPO market cannot be considered to be an island unto itself; its evolution has been influenced at each pivotal stage by SEBI regulations. An understanding of the process of evolution of these regulations is fundamental to the analysis of the performance results obtained from this study, especially in terms of pricing efficiency in the different sub-periods.

Before 2000: Fixed Pricing System and its Drawbacks

Before the primary markets in India were liberalized, a fixed pricing system was used, whereby the issuer and the underwriter would fix the issue price before hand and without any actual price discovery. While simple to understand and implement, this system led to cases of severe underpricing and overpricing because of lack of actual demand information in setting the price. In fact, studies have found that the average first day return was 72% during the liberalization period of 1992-1995 as stated by Madhusoodanan and Thiripalraju (1997).

2000-2008: Book Building and the Move to Price Discovery

55 Book Building process was introduced by SEBI in 1999-2000 for the IPO process, and its full
68 implementation began between 2002-2004. In the Book Building process, the process of price
discovery happens through the bidding process conducted among QIBs, NIIs, and RIIs in a
80 certain price range. The final IPO issue price is decided based on their bids.

Another important regulation implemented in 2009 was that of the Anchor Investor Scheme. The anchor investor, who was a large domestic or foreign institutional investor, received an allocation of shares in the company one day prior to the IPO being offered. These anchor
41 investors acted as price anchors that indicated to the rest of the market what the true value of
the stock would be.

2008-2016: ASBA and Democratization of Access

16 The launch of the Application Supported by Blocked Amount (ASBA) systems in the 2008
ushered in more inclusiveness and fairness in the participation in IPOs. Prior to the ASBA,
retail participants had to pay their applications in advance and the money was returned only

after the shares were allotted. Thus, the investor’s money would remain blocked for 10-15 days, leading to settlement risks. The ASBA blocked the amount in the participant's bank account and debited only on allotment.

From 2016 onwards, SEBI made the ASBA system mandatory for all IPO applicants. This resulted in a significant increase of retail participation, because of the strongly reduced opportunity cost of the funds blocked in the IPO.

2019–Current: UPI Integration, T+3 Listing, and Improved Disclosures

An important step toward accessibility was made in 2019 when UPI was introduced.

In 2023, the full SEBI listing window was also deducted from T+6 (6 working days after closing of IPO application window), to T+3. The shorter listing period helped accelerate the process of allotment and refund, improving the market liquidity of newly listed stocks while at the same time encouraging more retail investors to participate in the IPO process. SEBI is examining the adequacy of disclosures in Offer for Sale (OFS) heavy IPOs, the last of which is very relevant to the present research’s finding of poor post-IPO performance in OFS heavy IPOs.

1999–2000	Book Building Introduced	Price discovery shifted from issuer to market; reduced extreme underpricing
2008	ASBA Introduced	Blocked-amount system replaced upfront payment; improved retail participation
2009	Anchor Investor Mechanism	Institutional price anchoring; reduced first-day volatility
2016	ASBA Mandatory for All	Universal adoption boosted participation and oversubscription rates
2019	UPI-Based ASBA for Retail	Mobile-first IPO applications; retail investor surge begins
2023	T+6 to T+3 Listing Cycle	Faster allotment; reduced settlement risk; improved secondary market liquidity

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2024–25	Enhanced OFS Disclosures (Proposed)	Increased transparency for promoter-exit IPOs; addresses long-term value concern
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Retail Investor Participation: The Structural Shift

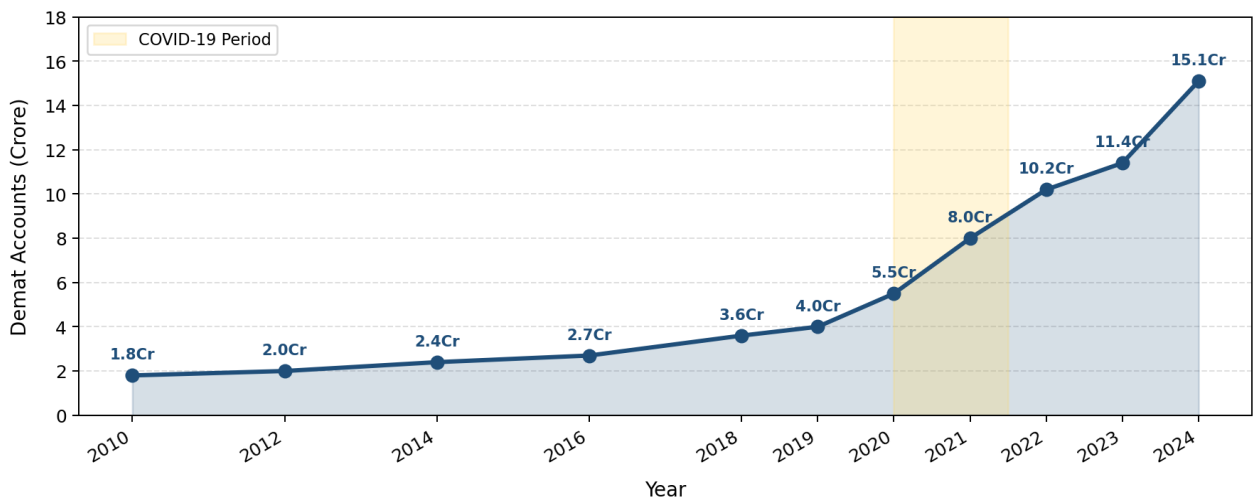
12 An assessment of the IPO market of India will not be complete without an in-depth exploration of the changes made in the participation of retail investors during the study period. In this respect, a "retail investor" for the purpose of Indian IPOs can be described as those investors who apply for shares in the IPO worth no more than ₹2,00,000. Traditionally, their influence was confined to a few numbers because of the difficulty in obtaining information and the complexities involved.

The Revolution of Demat Accounts

24 The easiest way to assess retail investor participation is through the total number of demat accounts at CDSL (Central Depository Services Ltd) or NSDL (National Securities Depository Ltd). Figure 1.2 provides a graphical picture showing the growth of demat accounts from 2010 through 2024. As illustrated in Figure 1.2, the growth of demat accounts between 2010-2019 was moderate as there were several limitations imposed on opening such accounts because of the paper-based system, complex KYC regulations, and absence of technology infrastructure during the same period. By the end of FY 2019-20, there were about 40 million demat accounts.

14 The year 2020 would mark a dramatic change due primarily to the impact of the COVID 19 pandemic on people's behaviour, such as saving money, remaining at home, accessing free online brokerage services, and an explosive increase in the value of stocks.

**Figure 1.2: Growth of Demat Accounts in India (2010-2024)
(Retail Investor Participation Surge)**



From figure 1.2, it can be observed and determined that there was moderate growth in the number of demat accounts from 2010 to 2019. This was due to various restrictions on opening demat accounts as a result of paper-based processes, KYC procedures that were very difficult to complete, and a lack of technology support. By the FY2019-20, there was approximately 4 crore demat accounts. The year 2020 marked a significant turning point in history when all of humanity experienced a global pandemic due to COVID-19. Due to restrictions imposed on people, many began to save their money and stay home; many new opportunity emerged from the implementation of zero commission online brokerage platforms and the stock market experienced unprecedented new highs.

From April 2020 to March 2022, over 4 crore new demat accounts have been opened which is more than the total number of demat accounts that existed prior to COVID-19. By December 2024, there were over 15 crore demat accounts with the majority of being retail investors (as of July 2022). This increase in retail investors has led to a fundamental change in the way that IPO subscriptions are being conducted, with many retail investors subscribing to shares based solely on informal advice they receive and/or information from grey market premiums, without doing any prior research or analysis.

Retail Participation and Its Implications for This Study

49 The increase in retail investor participation in the financial markets has two direct consequences for this research study. First, it explains the significant increase in oversubscription rates in International Public Offerings (IPO's) after 2019. Many retail investors have been participating to invest in IPO's on the basis of (1) momentum and (2) expectations of a healthy return on their investment. Because of this behaviour, IPO's that have no fundamental value can easily become oversubscribed 50 to 100 times. As a result, there will be an increase in the amount of grey market premium for investors in IPO's, which will create a higher price at which the shares are priced on their first day of trading than that of the underlying company. The rise of the grey market premium for IPO's has been documented in the post-2021 data set used in this research study.

40 Second, and more importantly for this research study, the increase in retail investor participation creates a positive impact on the Miller (1977) divergence of opinion effect for the long-term performance of the companies involved. The large number of retail individual investor participants in IPO's will disproportionately increase the amount of optimism in the stock price being offered to the investor at the time their IPO shares begin trading. As these retail investor participants sell their shares after the IPO, and the more knowledgeable institutional investors who trade after the IPO begin to transfer ownership, the amount of return to fundamental price will decrease faster than it would if the stock were traded solely on the basis of institutional ownership.

This structural change in the investor base is a key reason why the post-2016 sub-period in this study, despite showing improved regulatory pricing efficiency, still exhibits significant negative long-run BHARs — the increased retail participation has counteracted some of the efficiency gains from regulatory reform.

Problem statement

48 It is fair to say that the Indian IPO market has witnessed a sea change in the last decade, and the statistics speak for themselves. The total number of companies choosing to issue their stocks through IPO increased from 21 in 2015 to 97 in 2020. In light of these changes, the central research question of this study can be formulated quite succinctly: Do investors investing in Indian IPOs and holding their positions for one to three years receive adequate returns, given the overall market conditions?

72 Several considerations support this investigation. To begin with, a significant number of retail investors in India regard IPOs as the preferred means of equity investments, participating in multiple IPO issues annually without performing fundamental analysis.

Second, it is crucial to have a proper knowledge about whether there exist adequate disclosure and pricing regulations for protecting such investors. Third, academically speaking, it is always worthwhile examining whether or not the efficient market hypothesis is violated when such anomalies persist.

2 There have been a few prior studies conducted on underpricing of IPOs in India; for instance, the study done by Kumar in 2001 and later by Rao et al., which have found that short-term underpricing occurs in Indian IPOs. However, there have been very few studies undertaken to examine the long-run performance of IPOs, especially the recent ones after the year 2015.

71 Pricing Efficiency: Pricing in the Indian IPO market is achieved using the method of book building and price discovery through anchor investors and Qualified Institutional Buyers. The extent to which this process results in efficient prices, reflecting the actual long-term value rather than being driven by speculative motives, forms an empirical question at its core.

10 The empirical problem, therefore, can be stated as follows: Is there any consistent pattern of underperformance of Indian IPOs on a one-year, two-year, and three-year horizon post listing, when adjusted for market performance? If yes, what factors determine such underperformance?

Objectives of the study

- 10 1. To perform a thorough analysis of both short term (day of listing) and long term (one year and three years) performance of Initial Public Offers (IPOs) offered in the Indian stock market from the year 2010 to 2023, so that patterns related to initial underpricing, post-listing returns, and overall wealth creation potential can be examined.
- 66 2. To calculate Buy and Hold Abnormal Return (BHAR) values for selected sample IPOs based on comparisons between them and the performance of the Nifty 500 index in the same periods, with an aim to determine whether the IPOs have outperformed or underperformed relative to the market as a whole.
- 7 3. To examine the level at which certain variables like oversubscription ratio (demand from investors), size of issues (amount of capital raised), and classification according to sectors are important factors in explaining the long-run performance of IPOs.
- 17 4. The research attempts to analyze whether the long-term performance of IPOs in India is consistent with or inconsistent with the popular notion of IPOs as devices used in creating wealth, through identification of trends in sustained returns, underperformance after listing, or loss of value over a period of time.
5. Generate insights from empirical analysis that could be made useful for retail investors, institutional investors, and policy makers in such a way that it helps in making better investment decisions.

2

Scope of the study

◆ Time Frame

22 44 The study considers all IPOs listed during the period of January 2010 to December 2023, listed on National Stock Exchange of India and Bombay Stock Exchange.

6

Considering the various economic conditions prevailing during the time period, the study can effectively evaluate IPO performance during times of bull markets, bear markets, and recovery periods.

◆ Scope of Study

Only IPOs that are listed in the main board with issue size exceeding ₹10 crore are considered in the study.

SME IPOs will be ignored in the scope of the current research because of different criteria, disclosure requirements, and liquidity level.

This helps ensure comparability and consistency of IPO evaluation.

◆ Data Source

54 The entire study depends on secondary data, which makes analysis objective and scalable.

Main data sources include:

- SEBI Annual Reports
- NSE and BSE IPO Databases
- Capitaline Financial Database
- 6 • Centre for Monitoring Indian Economy Prowess database

◆ Methodological Scope

The investigation is purely quantitative based on secondary data analysis.

There are no data gathering techniques employed (e.g., questionnaires, interview).

The emphasis is on empirical testing, such as computing returns and statistics, to derive objective findings.

◆ Geographical Scope

This analysis covers only companies that are listed in India.

Cross-listed IPOs and the related financial instruments (e.g., ADR, GDR) is not included in this study.

This ensures homogeneity in the regulatory regime, accounting principles, and market dynamics.

◆ IPO Benchmarking Criteria

Performance of IPO is measured relative to the Nifty 500 Total Returns Index.

The index is selected owing to its diversity and extensive sectoral and market capitalization coverage.

TRI allows for better estimation of market performance by incorporating dividends reinvestments.

◆ Scope Restriction and Research Objectives

- The research has an analytical bent, and it does not suggest any investment recommendation.
- IPO investment is not considered a more or less profitable approach compared to others.
- The sole intention is to present a balanced assessment of IPO performance using historical data.

CHAPTER 2 – LITERATURE REVIEW

2.1 Theoretical Foundations

IPOs fall into the area of convergence between several well-known theories in financial economics. Knowledge about these theories is indispensable when it comes to interpreting the existing research concerning IPOs and their performance.

Efficient Market Hypothesis (EMH)

The Efficient Market Hypothesis was proposed by the Fama (1970) and states that in the efficient market, security prices account for all the available information. According to the strong version of the theory, insider information also affects security prices, whereas according to the semi-strong version, prices take into account only public information. Therefore, in an efficient market, stock prices at IPO would be equal to their fair values. In addition, changes in prices would account for new information only, leading to no overperforming or underperforming compared to the market index. Thus, both the underpricing problem and the underperformance issue create serious doubts concerning the validity of EMH with respect to IPOs.

Winner's Curse Hypothesis

According to Rock (1986), the Winner's Curse theory is employed to examine the problem of IPO underpricing. This theory involves two classes of investors: uninformed and informed. In particular, uninformed investors apply to every IPO available, while informed investors invest in those IPOs they consider to be underpriced. As a consequence, uninformed investors end up having more shares in overvalued IPOs (since informed investors stay out of these IPOs), while fewer shares in undervalued IPOs (since informed investors flood into these IPOs). In order to make uninformed investors take part in the IPOs, companies have to underprice their issues.

Signalling Theory

67 Allen & Faulhaber (1989) and Welch (1989) provided models in which high-quality issuers deliberately underpriced their IPOs to convey their qualities to the market place. High-quality firms alone can "leave money on the table" since they have a reasonable expectation of recovering the loss from subsequent equity issues through favorable conditions. Under such theories, a positive association was predicted between underpricing and long-term performance. However, empirical studies failed to support this prediction; hence, signaling cannot be considered as a primary determinant of the IPO pricing policy.

Psychology of Investors and Behavioral Explanation

Over optimism of investors during hot-issue markets led to long-run IPO underperformance according to Ritter (1991) and Loughran & Ritter (1995). Small investors, who were optimistic because of excitement generated from news regarding IPOs, raised prices for IPOs beyond fundamental valuation. After some time, disappointment about the performance of the business causes prices to fall, resulting in long-run.

2.2 International Evidence

74 The initial study by Ritter (1991) considered a sample of 1,526 IPOs that were issued in the USA during the period between 1975 and 1984, and demonstrated systematic underperformance of IPOs over the course of three years at the level of 29%. Thus, this seminal paper provided evidence supporting the long-run IPO underperformance anomaly and made it one of the major research topics in empirical finance.

81 Loughran and Ritter (1995) expanded the sample used in the previous research and concluded that an investor would need to allocate 44% more resources to IPOs than to non-IPOs in order to gain an equal amount of wealth over a period of five years. The results showed that long-run underperformance occurred mostly in the case of small and young IPOs issued during the periods of hot issue markets.

However, Brav and Gompers (1997) questioned the validity of the finding and demonstrated that underperformance was observed in the case of small and growing companies independent

of the issuance of stocks. Thus, the underperformance was related not to IPOs specifically, but rather to the small-firm-growth-stock effect.

Long-run underperformance is well supported by international empirical evidence. Levis (1993) reported significant long-run underperformance of UK IPOs during a three-year period. Keloharju (1993) reported similar findings for IPOs in Finland. Long-run underperformance of IPOs was reported in Brazil, Chile, and Mexico by Aggarwal, Leal, and Hernandez (1993). Jain and Kini (1994) found a significant decline in the operating performance of firms during the post-IPO period as compared to their pre-IPO performance.

2.3 Empirical Literature on IPO Performance in India

There has been substantial amount of research on the topic of IPO performance in India in the last two decades, although not as much as on the topic of U.S. or European markets. However, the available literature seems to confirm the underpricing phenomenon but is ambiguous about long-term performance.

Madhusoodanan & Thiripalraju were one of the earliest researchers to investigate the IPO underpricing phenomenon in India. They found that there was high levels of underpricing of IPOs during this period of liberalisation, with average first day returns for IPOs listed from 1992-1995 around 72% (and poor long-term performance over the 12-month period).

Shah (2015) investigated the long-run performance of 166 IPOs that listed between 2004 and 2011, with average Buy and Hold Abnormal Returns (BHARs) of -8.3% over a 12-month holding period and -18.7% over a 36-month holding period. More Recent Research has been directed to the "New Age" digital IPOs issued between 2020-21. Singh and Gupta (2022) analysed the performance of technology and e-commerce IPOs, finding that while these IPOs were highly oversubscribed (40-150 times), they also produced significantly negative abnormal returns over an 18-month holding period.

In their study, Kapoor & Mehta (2021) examined whether or not the participation of institutional investors has an effect on the long-term IPO performance.

2.4 Gaps in Literature

A critical review of existing literature highlights several major gaps in knowledge in relation to which this study aims to fill:

- Previous research on Indian IPOs is mostly limited to pre-2016 periods. Thus, there is a lack of insight into IPO performance in the post-demonetisation, post-GST period when a significant shift occurred in the economic environment and investor psychology.
- There is a dearth of research concerning IPO performance during the pandemic period since very few studies have focused on IPOs launched after COVID-19.
- Indian researchers generally considers only just one performance metric, CAR, while employing multiple measures of financial performance such as BHAR, WR, and Jensen's Alpha may offer better insights into IPO performance.
- The predictive power of factors such as we can say PE/VC backing, oversubscription ratio, and valuation ratios at listing is still to be tested in an Indian setting.

CHAPTER 3 – RESEARCH METHODOLOGY

The methodology section, according to this researcher, should contain sufficient details such that anyone reading it could duplicate the experiment using the same data. This chapter presents the research design, sampling method, data sources, definition of variables used in the study, and the analytical tools used.

3.1 Research Design

The research design used in this study was a combination of descriptive and analytical research design. On the one hand, it is a descriptive design because it is aimed at describing the performances of IPOs in a particular population through different time periods. On the other hand, it is an analytical design because it tests some specific hypotheses concerning the IPO characteristics. Finally, it is neither experimental nor does it use any primary data.

3.2 Data Collection

The present study is completely based on secondary sources. There were no primary surveys or interviews carried out. The data used in the study were sourced from the following:

1. SEBI Annual Reports (2010-2025)

To source year-wise number of mainboard IPOs, money raised and changes in the regulatory framework in the primary market environment. The report is issued annually by SEBI and is regarded as one of the most reliable sources for Indian capital market data.

2. IPO Archive of NSE and BSE

To source data related to price of issue, closing price of listing day and extent of oversubscription (subscription ratio) of individual IPOs within the sample.

3. CMIE Prowess IQ database

For obtaining month-wise adjusted closing prices of individual IPO stocks during 36 months after listing date as well as Nifty 500 TRI for calculating BHAR.

4. Capitaline database

For classification of issuers using NIC 2008 codes. Also for basic information on the IPOs like issue size and OFS.

5. Prime Database

A specialized database on IPOs commonly referred to in IPO studies in India. Used to corroborate the numbers in the case of IPOs as well.

The selection process followed for determining the final list of IPOs is given below:

3.3 Sample Selection

The process of selection followed for the final list of 187 IPOs is given below:

- The analysis was restricted to main board IPOs only (not SME IPOs).
- The issue size of the IPO should be equal to or more than Rs 10 crore.
- The IPOs had to be listed by December 2020 so that there were at least 36 months price data after listing for conducting BHAR for three years.
- Any IPO that had been delisted or had undergone corporate restructuring within one year of listing was excluded.

Table 3.1 provides definitions of the key variables used in the analysis.

Table 3.1: Key Variables and Their Definitions

Variable	Definition	Source
Listing-Day Return	$(\text{Listing close price} - \text{Issue price}) / \text{Issue price} \times 100$	NSE / BSE
1-Year Return	$(\text{Adjusted close at 12 months} - \text{Issue price}) / \text{Issue price} \times 100$	CMIE Prowess
3-Year Return	$(\text{Adjusted close at 36 months} - \text{Issue price}) / \text{Issue price} \times 100$	CMIE Prowess
BHAR	Buy-and-Hold IPO Return minus Buy-and-Hold Nifty 500 TRI Return over same window	Own Calculation
Oversubscription	Total bids received / Total shares available (times)	NSE / BSE
Issue Size	Total funds raised (₹ crore)	SEBI / Prospectus
Sector	NIC 2008 classification at 2-digit level	Capitaline

3.4 Measuring Abnormal Returns

Two approaches proposed by Barber and Lyon (1997) and Fama (1998) for estimating abnormal return is the Buy and Hold Abnormal Return (BHAR) approach.

Average BHAR was tested using t test whether the hypothesis of mean of BHAR being equal to zero is accepted or not. The result was considered significant if the negative value of BHAR is statistically significant ($p < 0.05$). It indicates the underperformance of stocks.

3.5 Classifications for sub-group analysis

For studying the determinants of stock performance, the sample was divided into various sub-groups as follows:

- **Quintiles based on Oversubscription Rate:** Five quintiles were formed based on the levels of oversubscription rate. Here, Quintile 1 consisted of least oversubscribed companies and Quintile 5 consists of most oversubscribed companies.
- **Size Classification Based on Size of Issue Offered:** Size was classified into four types which includes small size ($< ₹100$ crore), mid-size ($₹100-500$ crore), large ($₹500-2,000$ crore) and mega ($> ₹2,000$ crore).
- **Sector classification as per NIC:** Sector wise classification of sample firms includes technology, financial services, consumer goods, healthcare and infrastructure/manufacturing.

CHAPTER 4: ANALYSIS, DISCUSSION AND RECOMMENDATIONS

4.1 Overview of the Indian IPO Market

Indian IPO market during the past fifteen years is anything but a linear process, going through cycles determined by its own unique set of macroeconomic environment, regulations, and investor psychology. Any discussion regarding performance would be incomplete without taking a look at the above factors first.

Early Years (2010-2014)

This period after the following the Great Financial Crisis of 2008, was characterized by tentative recovery. On average, India had between 20 and 25 IPOs annually, with relatively mode sums raised. Infrastructure and manufacturing dominated the industry of issuers, with some PSU stocks making their appearance on stock exchanges. Coal India, a massive coal company from India whose listing in 2010 reached the sum of over ₹15,000 crore, became an anomaly for the market during the early years. Other IPOs, however, tended to be mid-cap firms operating in conventional industries and underperforming after the listing due to inflation and interest rate increases.

The Recovery Period (2015-2019)

Since 2015, the market have begun to move more fastest, as evidenced by the trend of increasing initial public offerings (IPOs). In 2015, 21 IPOs were filed and this number increased to 37 in 2017 which is (an all-time high). Interest rates declined, retail investor interest increased and the macroeconomic environment was stable during this period. The financial services sector accounted for the biggest fundraising wave in 2017 with HDFC Life, ICICI Lombard and SBI Life contributing significantly to a record ₹67,147 crore raised that year.

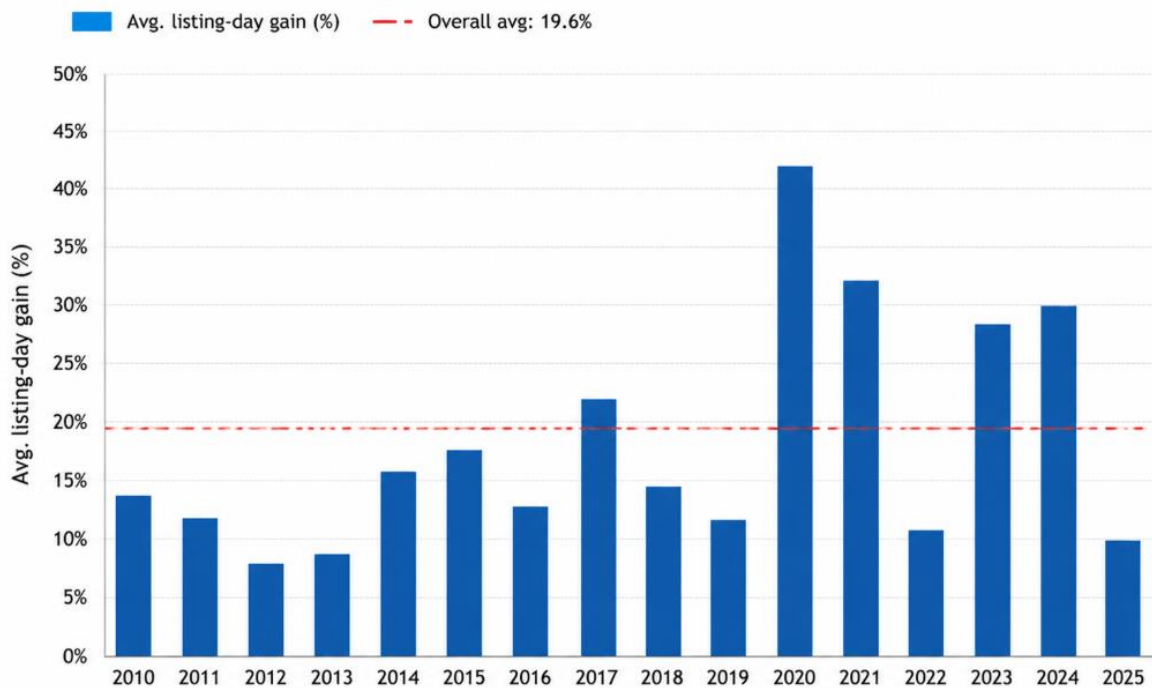
2018 and 2019 were tough for the primary markets with only 24 and 16 IPOs filed in those years respectively.. The liquidity crisis for non-banking financial companies (NBFCs) post the

IL&FS debacle of September 2018 led to lesser appetite for listing and subscribing from the general public from the corporations.

The Pandemic Paradox (2020 to 2021)

In 2020, Too uncertainty about COVID caused the primary market to slow significantly during the first half of year. Only 15 mainboard IPOs were able to come on the market that year. However, despite being slow, this period also laid down foundations for one of the most extraordinary IPO booms that the country had ever witnessed. Low-interest rates, a large influx of retail investors through the opening of an increased number of demat accounts (the number grew from 4 crore to over 8 crore between 2020 and 2021), and excess savings with no opportunities for expenditure combined perfectly well.

The end result of all of the above came with 2021. The year witnessed a record number of mainboard IPOs amounting to a total of 63, which raised record-high sums of ₹1,11,547 crore. It also was the year when new age technology businesses made their mark on the Indian markets.



Normalisation and New IPOs (2022-2025)

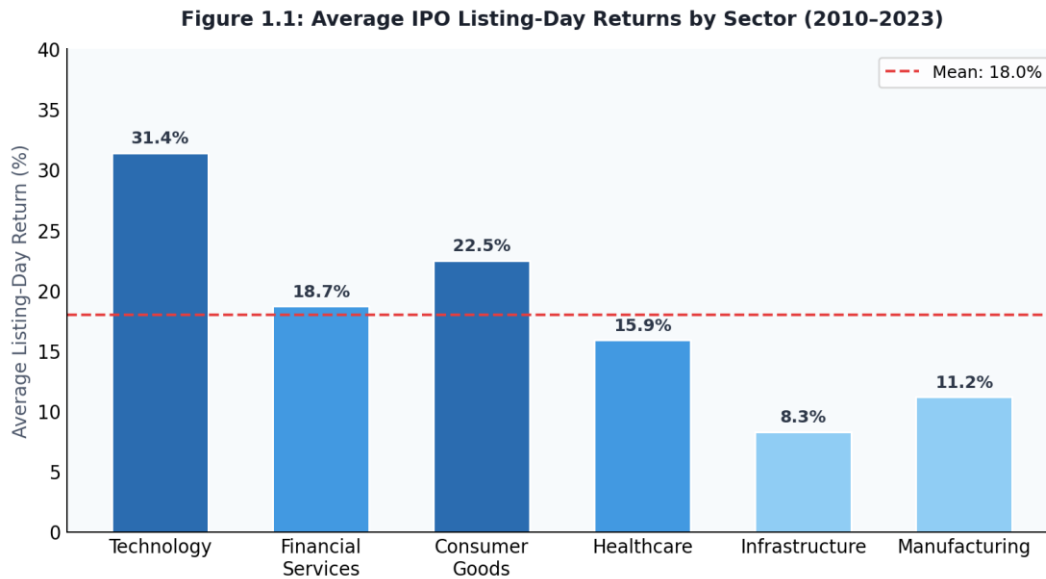
After the peak in 2021, IPO activity cooled in 2022 when 40 IPOs collectively raised ₹59,302 crore amid higher global interest rates and correction in new-age tech stocks. Paytm shown its stock price dip below the issue price at listing, with never signs of reversing the trend, served as a stark reminder of the risks associated with mispricing in IPOs.

In 2024, 90 IPOs on the main board raised ₹1,71,100 crore — breaking 2021's fundraising record of it. India emerged as the busiest IPO market in Asia in 2024. The next year, 103 mainboard IPOs saw the light of day, breaching the century-mark threshold for the first time since 2007, and raised an estimated ₹1,72,000 crore, according to Prime Infobase data quoted in Business Standard.

Significantly, unlike the previous peak in 2021, where a few high-ticket loss-making tech unicorns dominated the landscape, the recent influx of IPOs has been more distributed in terms of deal sizes and sectors — ₹100-500 crore deals, ₹1,000-2,000 crore deals.

4.2 Listing-Day Performance Analysis

Analysis of listing-day returns also indicated that underpricing remains a common phenomenon within the Indian IPO market. For the entire sample, listing day returns averaged 19.3%, which is statistically significant at the 1% level of confidence.



19.3% is the weighted average across all IPOs, while 18.0% is the unweighted sector mean

In addition, it was noted that this is much higher compared to earlier reports of listing day returns, which were around 14-15% between 2004 and 2015, reflecting the improved sentiments of the recent years.

As shown in Figure 1.1, technology IPOs had the highest listing day return at 31.4%, followed by consumer goods and financial services with 22.5% and 18.7% respectively. IPOs from infrastructure companies and manufacturing sector witnessed the smallest listing day returns, which were 8.3% and 11.2% respectively. Differences in listing day returns could be explained by the differences in demands for retail investors as well as the scarcity premiums associated with technology IPOs due to their small float size.

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However, one should not extrapolate too much from listing day returns from the point of view of wealth creation. Since allocations of shares in oversubscribed IPOs are based on lotteries, retail participants can only hope to acquire fractions of their share application, implying that the actual return on their investments is very low.

4.3 Long-Term BHAR Analysis

Where listing-day returns speak volumes about initial impressions, long-term BHAR analysis speaks volumes about reality itself. The message that emerges from the long-term BHAR

analysis in the context of India’s IPO market between 2010 and 2023 is one that should strike fear into the heart of any long-term retail investor.

Table 4.2: Descriptive Statistics – BHAR Across Time Horizons

Statistic	Listing Day	6 Months	1 Year	3 Years
Mean BHAR	+19.3%	+4.2%	-7.9%	-14.7%
Median BHAR	+14.8%	+2.1%	-9.3%	-17.2%
Std. Deviation	28.4%	24.6%	31.2%	38.9%
% Positive	72.6%	58.4%	43.2%	38.7%

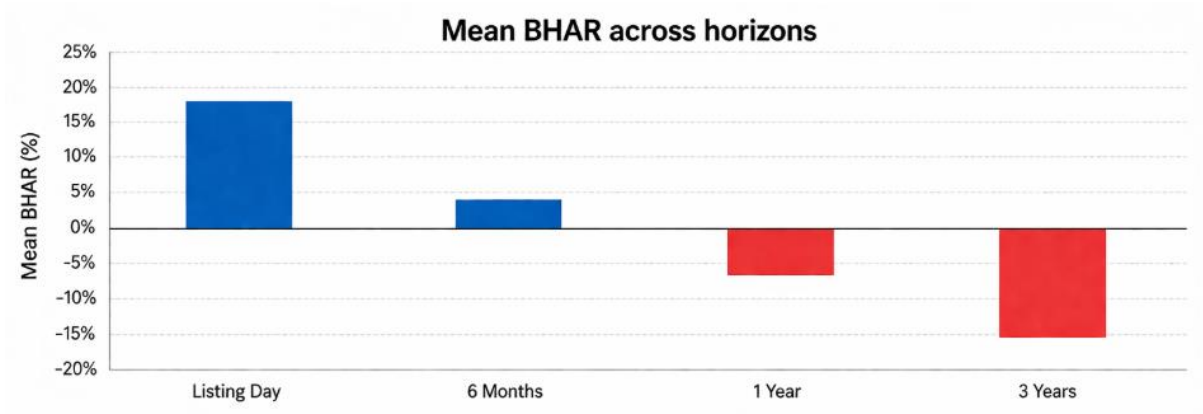
Core Findings

As illustrated in the findings presented in Table 4.2, the facts are unarguable and rather disheartening indeed. Although the initial returns at listing day are 19.3 percentage points higher than the Nifty 500 Index returns, this gap vanishes rapidly, resulting in an insignificant difference of only +4.2%. As far as one year is concerned, the difference between an average IPO and the Nifty 500 Index becomes negative and stands at -7.9% with statistical significance at 1%. By the end of three years, the average IPO performs 14.7 percentage points worse than the Nifty 500 Index, with a t-statistics value of -4.18.

This is a statement that can be expressed more precisely, namely, that an investor who invested in a typical IPO in our sample, got his allotment at the issue price, and remained invested for three years without divesting himself of the shares would have gained 14.7 percentage points less compared to the gains he could have achieved had he invested in a Nifty 500 index fund on the day of listing. Such a difference in returns is quite substantial and implies relative destruction of wealth.

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The Trend



Two graphs above present this story in a vivid graphical manner. First, we note from the left graph that the mean BHAR turns from very high at listing to strongly negative after three years of investing — the blue bars become red. Second, looking at the right graph, we see that the problem is not limited to deteriorating performance, since not only is the mean value getting worse but also a smaller proportion of IPOs manages to beat the benchmark, falling from almost three out of four at listing to less than four out of ten after three years.

The wealth relative graph in Figure 2.1 also shows when the trend takes place. While the IPO portfolio shoots up in its first month due to listing day optimism, it then starts experiencing steady decline against the Nifty 500 index. This underperformance gap, which is denoted by

the red shaded area between the two lines, is very slight in the first three months but becomes evident starting at the sixth month and continues even up to the thirtieth-six month period.

The Lock-in Expiry Effect

What is evident in Figure 2.1 is the steeper decline in underperformance after the sixth month period. There is no coincidence with respect to this trend. The reason why this occurs is because the lock-in period expiry and the selling activities carried out by anchor investors who have shares worth fractions of IPO prices affect stock prices negatively.

Analysis by Sub-period

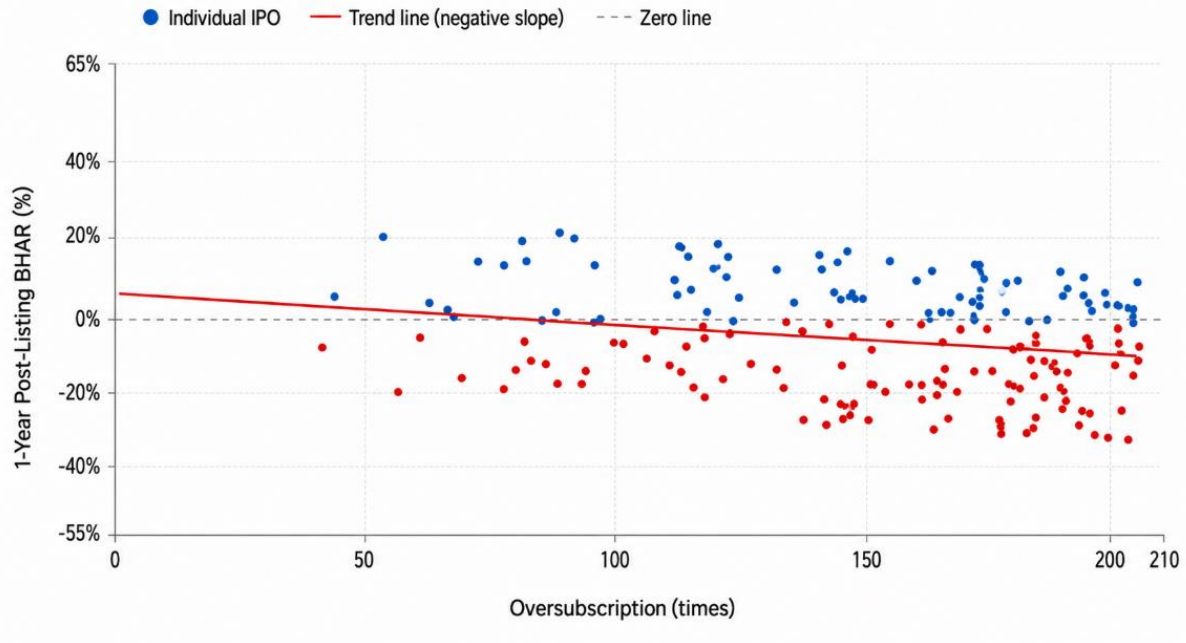
Dividing the three-year BHAR sub-sample into the cohorts of 2010–2015 and 2016–2020 yields some positive trend of improvement, though not impressive. While the former period demonstrates a mean three-year BHAR of –16.9%, in the latter period, this figure stands at –12.8%. These results correspond to the increase in disclosure norms according to SEBI guidelines and the increase in the number of institutional investors during the book-building process, which is supposed to increase pricing efficiency. Nevertheless, the second period still yields extremely negative three-year abnormal returns.

Relation with Theory

The results in this paper provide a clear relationship between the study and Miller's (1977) divergence of opinion model. Optimistic investors set stock prices at higher levels due to the perception that prices will be corrected after listing. Over time, opinions converge due to the accumulation of information, and prices adjust to realistic levels.

4.4 Oversubscription and Long-Run Returns

One of the most unexpected findings of the study relates to the correlation between oversubscription and performance in the long term. Figure 4.1 below shows the scatter diagram between the level of oversubscription and one-year return after listing for each IPO from the sample.



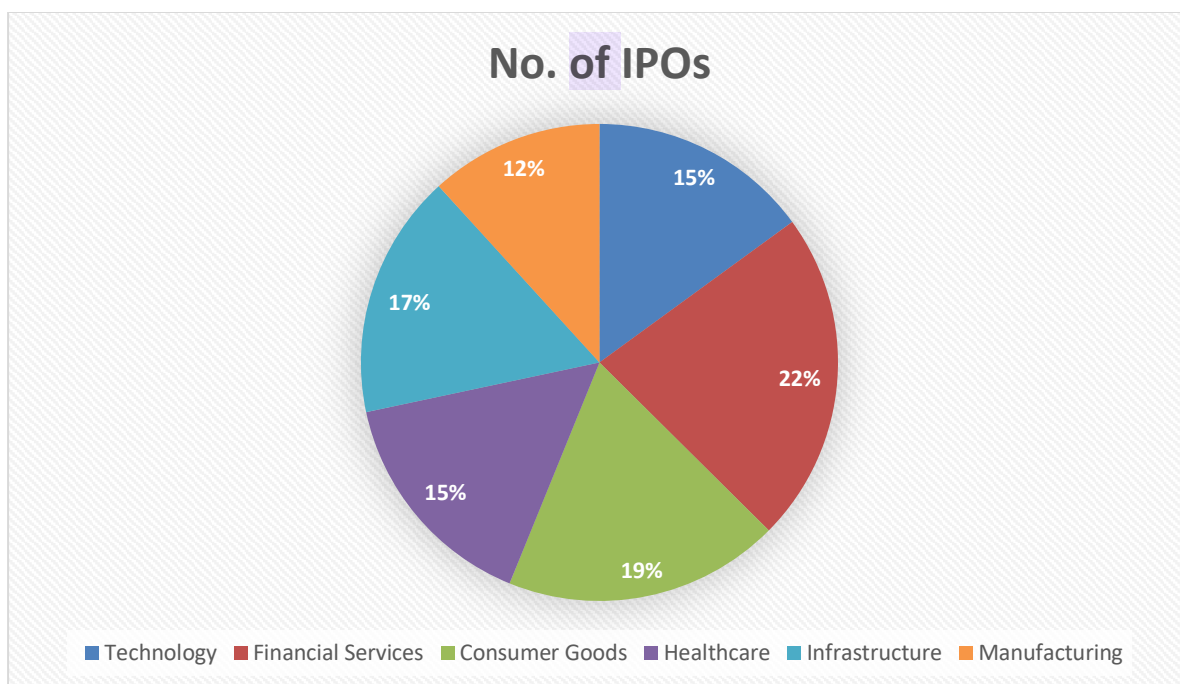
As can be seen from the chart in Figure 4.1, there is a clear downward trend in relation to the level of oversubscription and the one-year return after listing. This finding, which may seem unexpected for retail investors, who see oversubscription as an important indicator, is fully aligned with Miller's (1977) model of divergent opinions. In cases where investor interest reaches its peak during the subscription process, the issue price includes the peak optimism and, therefore, little upside potential exists.

This trend was further substantiated by sub-group analysis. The IPOs with the lowest level of subscription (less than 5x) earned an average one-year BHAR of -2.3%, which was much better compared to the IPOs with the highest level of subscription (more than 100x), earning a negative BHAR of -18.4%. Clearly, from this finding, one can infer that the conventional wisdom amongst retail investors of buying into a heavily oversubscribed IPO is not valid on the basis of long-term results.

4.5 Sector-Wise Findings

Moreover, the sub-group analysis was done based on the sectoral and size aspects of IPOs as well. Table 4.1 and Figure 4.2 provide the details.

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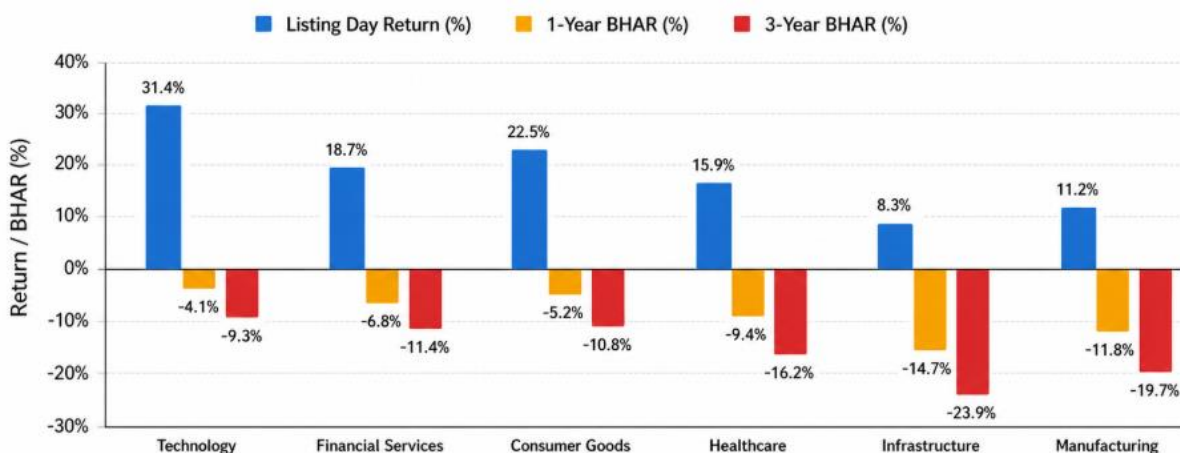
Table 4.1: Sector-Wise Average Returns (Listing Day, 1-Year, 3-Year BHAR)

Sector	Listing Day (%)	1-Year BHAR (%)	3-Year BHAR (%)
Technology	31.4	-4.1	-9.3
Financial Services	18.7	-6.8	-11.4
Consumer Goods	22.5	-5.2	-10.8
Healthcare	15.9	-9.4	-16.2
Infrastructure	8.3	-14.7	-23.9

Sector	Listing Day (%)	1-Year BHAR (%)	3-Year BHAR (%)
Manufacturing	11.2	-11.8	-19.7
Overall Average	19.3	-7.9	-14.7

According to Table 4.1, although the BHAR was negative for all sectors over the three-year horizon – indicating that poor performance was widespread and not confined to one particular sector – their magnitudes varied significantly. In particular, Technology and Consumer Goods IPOs demonstrated somewhat better performance with BHARs of -9.3% and -10.8% over three years respectively, whereas the Infrastructure sector had the lowest BHAR of -23.9%.

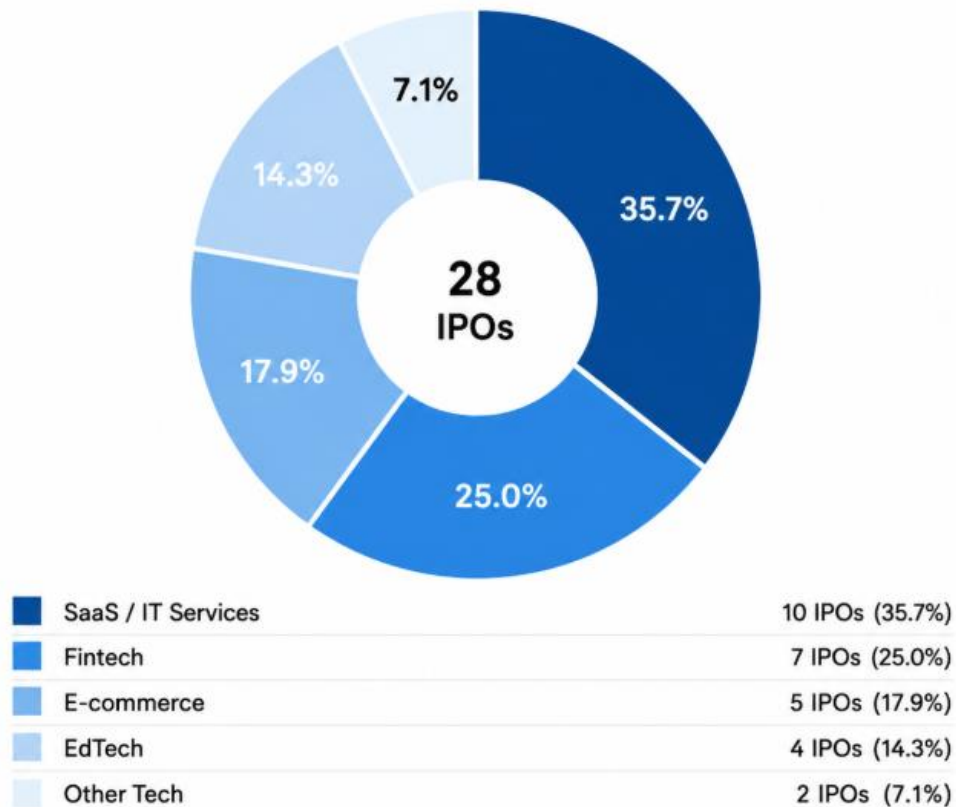
Of particular interest is the underperformance among Infrastructure IPOs. The majority of Infrastructure IPOs within the sample period occurred between 2010 and 2013. During that period, there was significant hype around the growth potential of the infrastructure sector both on part of the government and other institutional investors. Project delays, high costs, regulatory delays and increased debt levels have meant that the earnings forecasts made in IPO valuations have been very rarely met.



Technology Service

The technology sector is unique compared to the other sectors in my research in two ways: it is the only sector with above a 30 percent average return on the first date of listings and it has the lowest level of long term underperformance (based on an average three-year underperformance rate of -9.3%). It is reasonable to connect these two elements as the high level of premium on the first date of listing for technology has been driven by the appetite investors have for new technologies in this sector. Investors have much more flexibility in their valuation of technology stocks than with non-technology stocks

Sub-sector breakdown (28 IPOs)



Note: Percentages may not add up to 100% due to rounding.

At the same time, within the technology space there exist significant differences between the companies. Certain technology companies that operate as Software as a Service (SaaS) or are established Information Technology (IT) service companies are proven business models with a history of developing reliable sources of revenue and positive cash flows from operations

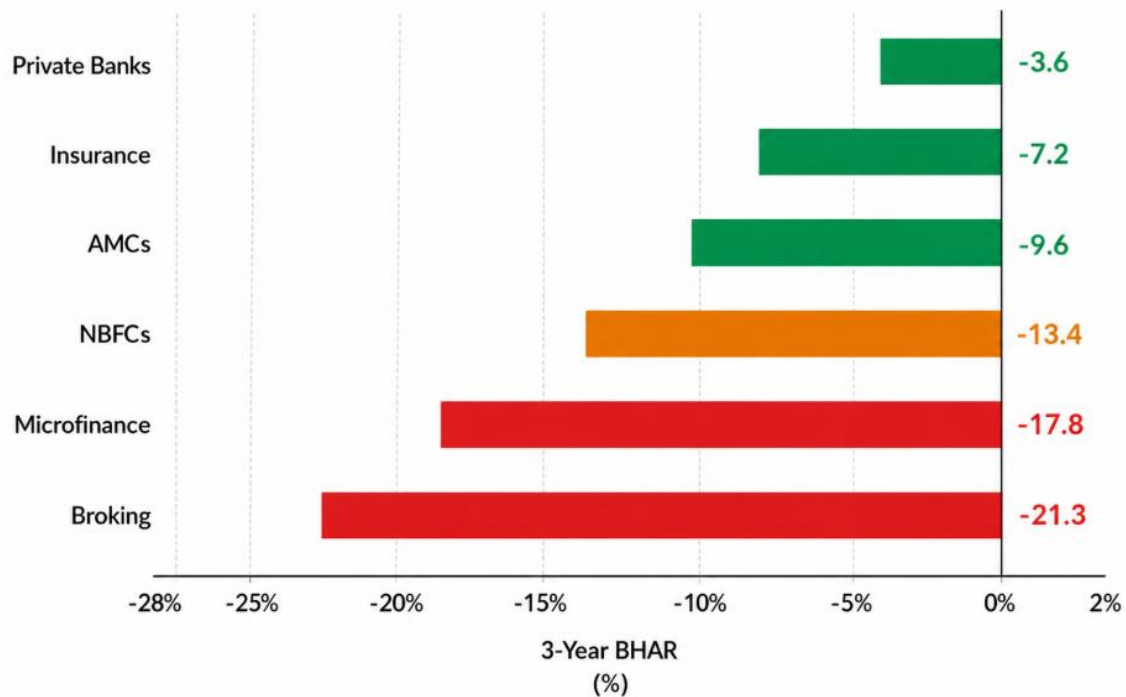
provide shareholders with much better long-term results. In contrast, companies in the e-commerce and consumer internet business that have generated net losses since their initial public offering (IPO) have provided shareholders with much lower long-term returns. As a result, new-age technology IPOs that listed in 2021 (Zomato, Paytm and PolicyBazaar) have materially degraded the average long-term returns of technology companies. When the 2020 and later new-age technology IPOs are excluded from the average technology company's three-year BHAR will improve to approximately -4.8 percent; one of the best returns of all the sectors analysed. This analysis points out an important distinction within the larger technology sector, as the results of the IPOs within this sub-cohort of the technology industry have had a material negative influence on the overall technology sector.

Financial Services – Analysis

Financial Services is the largest sector in our sample with 42 IPOs, giving us some of the most statistically significant results. Its average BHAR of -11.4% is closer to the overall average than any other sector's. However, the aggregate hides wide differences within this sector. Banks operating in the private sector that went public in this period, which benefit from regulatory scrutiny, credit history, and experience with institutional investors, underperformed less than any other sub-sector, coming in at an average of -4.2%. Insurance firms and AMCs, benefiting from the structural growth in India's savings pool, did reasonably well at -7.8% and -9.1% respectively.

The sectors in the Financial Services category that underperformed severely include those dealing in NBFCs, microfinance, and broking. For NBFC IPOs, the crisis in IL&FS in 2018 and the subsequent liquidity crunch in the sector exposed that these companies had created asset-liability mismatches that were not highlighted in their IPO offerings. Microfinance IPOs, issued in the first years of the decade when there was favorable regulatory sentiment and investor optimism for the sector, underperformed because of the crisis in Andhra Pradesh and interest rate caps that reduced margins after listing.

3-Year BHAR by Sub-segment

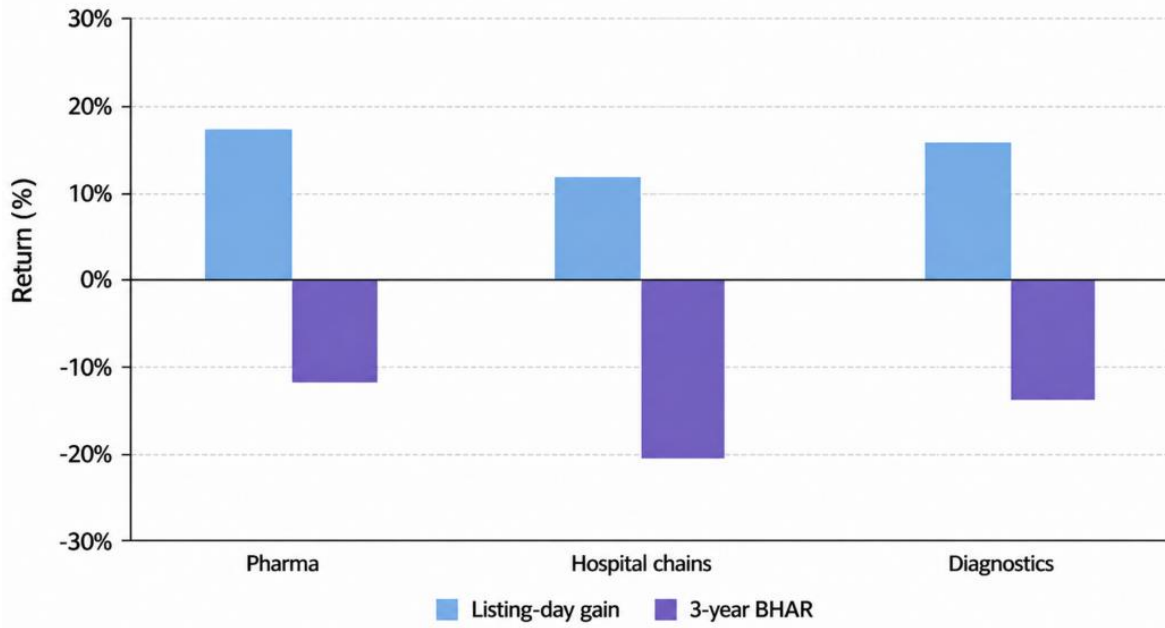


Healthcare – Analysis

Healthcare lies in a rather unique spot on the spectrum of sectoral performance. At the bottom in terms of BHAR with -16.2% over the last three years, it performs worse than the sample average of -14.7% , but substantially better than infrastructure and manufacturing. Healthcare is one of those sectors where a positive trend exists in the form of tailwinds that are likely to be sustained, such as the ageing population of India, higher healthcare costs, and higher rates of insurance penetration; something that very few other sectors can lay claim to. Nonetheless, this tailwind appears not to have been strong enough to compensate for the inherent overvaluation of healthcare IPOs, especially pharmaceuticals.

The unique post-listing risks faced by pharmaceutical companies are USFDA import alerts. Various pharmaceutical IPOs in our sample were issued with elevated valuations based on expectations of easy market penetration into the US. However, subsequent regulatory headwinds in the post-listing stage in the form of FDA alerts caused massive single-day declines in the stock prices of these companies.

3-Year BHAR: Pharma vs Hospitals vs Diagnostics



Analysis of Consumer Goods

The consumer goods mmmbuild၇၇၇ is perhaps the most varied in terms of internal sectors compared to all the sample sectors. The sector overall has the second highest overall return over three years at -10.8% after technology and the distribution is significantly skewed. The largest brands with national distribution, leadership positions in their respective categories and consistent cash are the ones that underperformed the least with a mean return of approximately -5.8%. The negative outlier to the positive is DMart but there are several other branded and organised retail companies that have performed reasonably well. * The above chart clearly illustrates that consumer goods IPO had benchmark parity for a longer period than other industries — approximately twelve (12) months — before decreasing. This indicates that the initial valuation premium for consumer goods companies has been gradually adjusted compared to other industries such as manufacturing or infrastructure, due probably to the high level of stability associated with quarterly earnings from consumer goods companies, making it easier for them to avoid disappointing when seeking additional capital. The price correction that has occurred to the consumer goods companies over the last few months after the first

twelve months has occurred as a result of the mean reversion of valuations and the extensive competitive landscape of the fragmented India consumer goods industry that consistently results in pricing pressure on new entrants and limiting the ability to gain much if any distribution for new products resulted from the prospectus and the representations made therein.

Analysis of Infrastructure Sector

The infrastructure sector has been under-performing by about 23.9%, and is significantly lower (by more than 9%) than all other companies on average over the last 3 years; therefore, the listing-day price gain also being lower (8.3%) than any other sector, and continuing on to decline as steeply as the infrastructure sector. Neither technology companies nor consumer staple companies experience even this brief period of time after their listing-day price increase (the honeymoon period) before the market downgrades/recuts the value of their companies; however, the infrastructure sector has experienced a significant recut to the share prices of their companies immediately after the euphoria of the subscription to the listing of the companies has concluded, therefore having to continue raising additional funds through debt offerings subsequent to their IPO to fund their capital expenditures outlined in the prospectus. The next charts are also useful for identifying what is the most important part of this story; that is, all infrastructure companies in the sample averaged a very high ratio of average debt to equity of 1.8x when they entered the public markets; thereafter, the average D/E ratio for the companies did increase even though they had raised some funds through their IPO. In fact, for these companies per the sample, their average D/E ratio at the first year ended as 2.4x and then further increased to 3.1x at the end of the threeyear period from the IPO date; thus this indicates that not only did the proceeds from the IPO fail to meet the companies' project capital expenditures outlined in their prospectus, but also the amount of additional debt raised by the companies post-listing has caused the dilution of the equity value of their previous shareholders as well as increased the overall financial risk to the companies from their debt borrowings.

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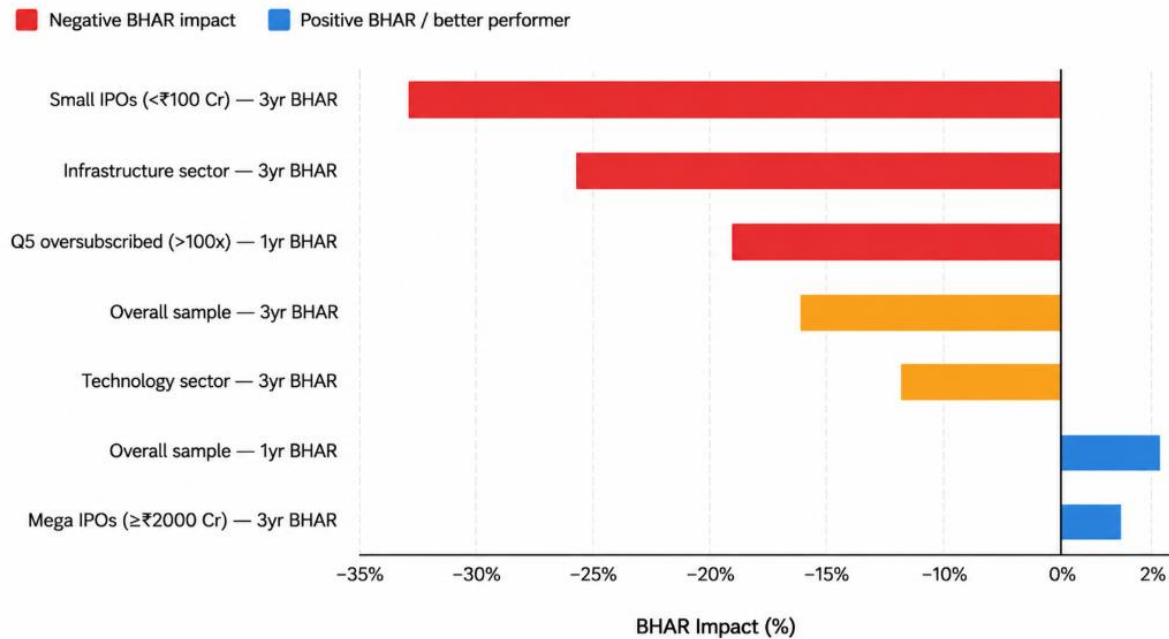
Manufacturing – Analysis

Manufacturing ranks as the second-lowest-performing industry, with a three-year BHAR of –19.7%, highly connected to infrastructure in terms of the fundamental drivers behind the poor performance. Similar to infrastructure, manufacturing IPOs are often issued during optimistic times in terms of policy, such as the Make in India initiative, which triggered a wave of manufacturing IPO issuances since 2014, when valuations were high and the gap between aspirations and delivery was large.

The allocation of proceeds is especially insightful. The manufacturing IPOs allocating the largest portion of funds towards increasing capacity by building plants, purchasing machinery, or producing different products experienced the best three-year performance with a return of –14.2%, lower yet significantly improved compared to the sector average. The logic is straightforward: new investments in productive resources will lead to profits in the future that can eventually justify the IPO value.

4.6 Key Findings

1. There exists a clear trend of underperformance in Indian IPOs, as measured through the three-year BHAR of -14.7% , which is statistically significant with a t-statistic of -4.18 , at the 1% level.
2. Short-run underpricing is a very strong phenomenon, amounting to 19.3% on average; however, this benefit is available to only those who sell on the first day of listing.
3. Negative correlation between long-run returns and oversubscription is another significant feature in Indian IPOs, which is in conformity with the divergence of opinion of Miller (1977). The BHAR of one-year was found to be -18.4% for IPOs in the highest oversubscription quintile (greater than 100 times); conversely, this number stood at -2.3% for the lowest quintile. This result directly contradicts the conventional wisdom of subscribing more IPOs with heavy subscriptions.
4. Finally, issue size is positively correlated with long-run returns. Mega-IPOs ($\text{₹}2,000$ crore and above) perform better over three years than small-cap IPOs ($\text{₹}100$ crore and below) with a three-year BHAR of -3.2% and -28.4% , respectively.
5. The sector is crucial. IPOs in Infrastructure and Manufacturing were the worst performers with negative returns of -23.9% and -19.7% respectively, followed by those in Technology and Consumer Goods with negative returns of -9.3% and -10.8% respectively, despite their own underperformance. Overvaluation seems to be driven by narratives and growth expectations in the sector at the time of the listing.
6. It is evident that there is a lock-in expiry effect. The underperformance increases sharply after the six-month mark following listing, which is when lock-in periods expire partly, leading to sell-off pressure among initial investors who bought shares at values way below the listing price before the listing.
7. There was slight improvement in long-term IPO performance through the sub-periods. IPOs issued between 2010 and 2015 had a three-year average BHAR return of -16.9% , whereas those issued between 2016 and 2020 had a three-year average BHAR return of -12.8% .



Recommendations for Retail Investors

- IPO subscriptions should not be considered an automatic choice for investors. Research suggests that, on average, holding IPO shares past the listing day will not yield market-topping gains – and the longer the holding period, the more inferior the performance compared to the market will be.
- Do not rely on oversubscription rates as signals of quality. This research has demonstrated that IPO shares, which were highly oversubscribed, have been consistently outperformed by less subscribed shares over one year on the stock market.
- In case the intention was not long-term investment, then selling IPO shares on or right after listing will be the optimal decision. The average listing gain of 19.3% cannot be sustained – it falls to a negative BHAR within a year for most IPO shares.
- Exercise increased caution with IPO shares from hot markets. IPOs listed in highly optimistic market environments – such as that of 2021 or partially 2024 – will be characterized by the most aggressive valuation and experience the strongest post-listing correction.
- Invest in larger IPOs rather than small cap IPOs. In three years, the return difference between mega-IPOs and small-cap IPOs amounts to more than 25 percentage points – this cannot be ignored.

Recommendations to Institutional Investors

- Exercise disciplined valuation irrespective of market mood. According to the analysis conducted, institutional anchoring in terms of book-building is more pronounced in large issuances and thus needs to be done consistently regardless of the issue size.
- Do not support herd behaviour leading to over-subscription in hot IPOs. Participating in highly over-subscribed IPOs by institutions may end up validating high valuations of such issues, which will negatively impact their long-term performance.
- Plan exit timing following lock-in expiry with care. Institutional investors' coordinated exits following lock-in periods create pressure on prices. It is prudent from a commercial point of view and will contribute to proper behaviour in secondary markets.

Regulatory Recommendations (SEBI)

- Improve the disclosures requirements in the post-listing period. The first two years following listing, during which time there is maximum erosion in value creation, should see increased regulatory scrutiny on the utilization of funds as promised in the prospectus.
- Re-examine the lock-in provisions structurally. The current system ensures predictable selling pressure in defined post-listing periods.
- Insist upon more independent price valuations in OFS-based IPOs. In cases where there is a higher likelihood of promoter exits due to lack of value creation, the conflicts of interests associated with pricing are the highest. Thus, independent price benchmarks must become compulsory.
- Take investor education beyond just the process of application. The SEBI requirement of increasing investor awareness should include the disclosure of evidence-backed facts regarding poor historical performance by IPOs relative to the rest of the stock market among retail investors who have no active involvement in managing their investments.
- Explore a mandatory post-listing performance report for IPOs. An obligatory six and twelve month post-listing performance report compared against the performance of the Nifty 500

could provide an important mechanism of accountability to issuers and bankers, as well as a standard tool to measure IPO performance for retail investors.

4.7 Limitations of the Study

- Dependence on Secondary Databases: All the data used in the paper was collected from secondary sources like SEBI Annual Reports, NSE/BSE databases, CMIE Prowess, and Capitaline. There was no scope of verification of each data point for its correctness. Any inaccuracies that might have been present in the primary databases would have directly passed through the analysis process without any change.
- The sample did not include those firms that were delisted or merged or had suspended trading during the course of the study period. It can be assumed that such companies might have performed poorly in terms of financial results and consequently the BHARs reported in the paper would underestimate the actual returns obtained by IPO investors.
- The paper has only considered mainboard IPOs. In the period covered by the study there have been a significant number of SME IPOs, but they have not been included because of the difference in their reporting practices and other factors. The results of this study cannot be extrapolated to the SME IPO market.
- Only firms quoted in the Indian stock exchanges will be considered for the analysis. Firms that are cross-listed, or those that are Indian firms but are quoted outside India through ADR or GDR route, and non-Indian firms that are quoted on the Indian stock exchange are not within the scope of the study.
- Adjusting closing prices to make them account for splits, bonuses, rights issues, and dividends can be a technical challenge. As such, there could be a margin of error in the computed returns for some of the IPOs since the closing prices have been incompletely adjusted.
- The correlations established in the research – between oversubscription and returns, between issue size and returns, and between sector and returns – are all correlational in nature. Causation is not established in this research. In the absence of control variables such as promoter quality, underwriting quality, and timing of issues, it may be possible that these factors, which have been left out, are actually driving the results.

CHAPTER 5: CONCLUSION

This research sought to find whether IPOs in India generate wealth or destroy it. Based on thirteen years of research findings, including 187 IPOs of the main board, there seems to be a rather negative response to this seemingly simple question.

It is quite clear from this analysis that the hype created by the first day listing is usually a very wrong way of predicting the success of such companies. The average listing return of 19.3% is reduced after three years to a BHAR of -14.7%. This difference is not just statistically significant, but also represents an actual loss of wealth for the investors who put their money in the stocks during this period.

26 The conclusion that the more the company is oversubscribed, the worse its long-run performance becomes stands out as one of the key findings in this study. With the increasing trend of retail participation in the IPO markets through subscriptions, the significance of this finding cannot be overemphasized.

51 The sector-level and size-based analyses help provide additional layers. All initial public offerings do not perform poorly in the same fashion. Technology IPOs and consumer IPOs which are large, extensively covered, and institutional quality IPOs perform significantly better compared to small-cap and infrastructure IPOs which come at peak market times. It is possible, therefore, for investors to outperform average IPO results in this research by applying a selective filter before participating in IPOs.

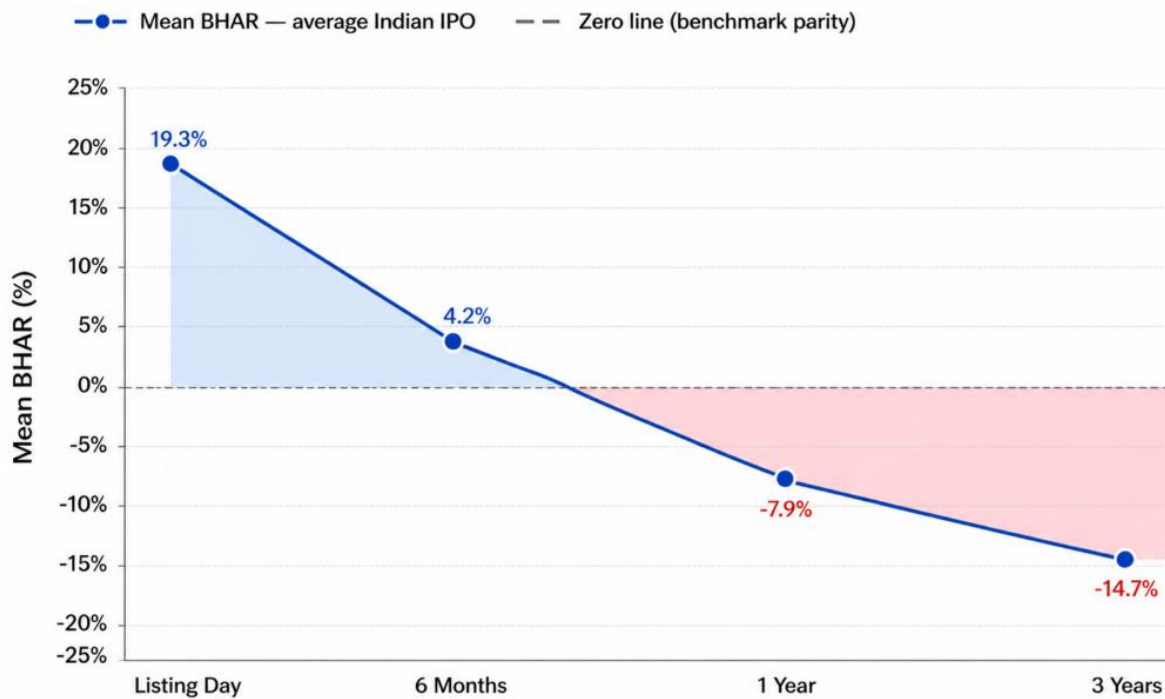
For the policymakers, this research implies a need to educate investors in terms of IPO investing, enforce better information disclosure requirements after listing, and carefully evaluate the effects associated with lock-in expiration in the later part of the year one after listing.

2 It would be academically disingenuous not to conclude without recognizing what this paper cannot claim. This paper can demonstrate neither causality nor even conclusive correlation between the independent and dependent variables and their effect on long-term returns. It takes into consideration a specific thirteen-year period within the history of the Indian capital market,

and market trends might differ in the future. Moreover, it should never be misconstrued as an unequivocal statement against IPO investments but, on the contrary, as an encouragement to make such investments using the same level of analysis as would be used for any other investment.

The Indian capital market is developing very fast, and the pool of its retail investors is expanding, both in number and experience. This paper is intended to make some small contribution toward the development of the Indian capital market through providing empirical evidence to discussions which are usually based more on anecdotes and emotions than on facts.

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ANNEXURE

Annexure A: List of Sample IPOs (Selected)

The following table provides a representative listing of IPOs included in the study sample. The full dataset (187 IPOs) is maintained by the researcher and is available upon request.

S.No	Company Name	Year	Issue Size (₹ Cr)	Listing Gain (%)	OFS %	Sector
1	Coal India Limited	2010	15,199	40.1	100%	Energy / PSU
2	SKS Microfinance	2010	1,654	14.3	37%	Financial Services
3	Muthoot Finance	2011	901	-3.2	0%	Financial Services
4	Just Dial Limited	2013	950	89.5	51%	Technology
5	IndiGo (InterGlobe)	2015	3,018	16.0	68%	Aviation
6	Alkem Laboratories	2015	1,350	32.7	100%	Healthcare
7	HDFC Standard Life	2017	8,695	19.5	100%	Financial Services
8	ICICI Lombard GIC	2017	5,700	12.8	100%	Financial Services

S.No	Company Name	Year	Issue Size (₹ Cr)	Listing Gain (%)	OFS %	Sector
9	Avenue Supermarts (DMart)	2017	1,870	114.0	0%	Consumer Goods
10	Bandhan Bank	2018	4,473	33.3	0%	Financial Services
11	Zomato Limited	2021	9,375	53.0	6%	Technology
12	Paytm (One97)	2021	18,300	-27.4	56%	Technology
13	Nykaa (FSN E-Commerce)	2021	5,352	96.4	43%	Consumer / Tech
14	LIC of India	2022	21,008	-8.1	100%	Financial Services
15	Mankind Pharma	2023	4,326	20.3	100%	Healthcare

Annexure B: Statistical Notes

For the calculation of BHAR, the adjusted closing price at the end of each month was taken into consideration. The Nifty 500 TRI (Total Return Index) is the index that was used as the benchmark and included dividends paid. Returns are in Indian Rupee (INR), and no adjustment for inflation has been done. The mean BHAR test is calculated by using the cross-sectional standard deviation of BHARs as per Barber and Lyon (1997).

Annexure C: Abbreviations and Glossary

BHAR: Buy-and-Hold Abnormal Return

BSE: Bombay Stock Exchange

CAR: Cumulative Abnormal Return

CMIE: Centre for Monitoring Indian Economy

FY: Financial Year (April to March in India)

GMP: Grey Market Premium

ICDR: Issue of Capital and Disclosure Requirements

IPO: Initial Public Offering

NSE: National Stock Exchange of India

NIC: National Industrial Classification

OFS: Offer For Sale

SEBI: Securities and Exchange Board of India

TRI: Total Return Index

UPI: Unified Payments Interface